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## INFLUENCE DIMENSIONS OF BRAND EQUITY ON PURCHASE INTENTION TOWARD SMARTPHONE IN MALAYSIA

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**ABSTRACT.** *The technology of smartphone has greatly affects the behavior of people and their attitude toward the purchase. However, there are lack of studies on the purchase intention of customer regarding smartphone usage among young in particular in Malaysia. Thus, the current study investigates the relationships between brand equity dimensions namely, brand awareness, perceived quality, brand association and brand loyalty on behavior intention to purchase the smartphone brands in Malaysia . Questionnaire data obtained from students at University Utara Malaysia in while the sample size was 377 respondents. The findings showed evidence of the significant and positive relationship between have relationship. The results also presented that brand association, perceived quality, and brand loyalty have positive effect on purchase intention, while brand awareness has insignificant. This paper contributes to knowledge on the existing body of brand management literature by systematically exploring the influence of smartphone brands in Malaysia. Marketers should improve brand quality, and enhance awareness which may encourage customers to purchase the smartphone brand.*

**Keywords:** Brand Quality, Brand Awareness, Perceived Quality, Brand Association and Brand Loyalty, Behaviour Intention.

1. **Introduction.** Today, there exist a huge number and great variety of smartphone applications that can allow users to easily alter things through adding new functions that can assist users in the accomplishment of various activities such as banking, navigating, playing games, taking notes, or sightseeing. In this way, Smartphone users can easily turn their phones into cameras, musical instruments, sketchbook, dictionaries, or even bus schedules [1]. Smartphone is the only tool that can be connected to the Internet without the need to travel under hard circumstances.

Smart phones can provide individuals with voice communication as well as numerous interesting Smartphone applications and innovations to achieve necessary requirements of people information services [2]. Smartphones can provide the users with the abilities to extend the functions of their mobiles to include social networking services (such as SMS, Twitter, and Facebook) that are useful platforms for to accessing and sharing information in an easy manner [2]. Furthermore, many mobile users prefer to use their Smartphones SMS to access travel agencies and websites which can give mobile users updates about locations and provide them with pieces of advice conceding scenic spots, transportation, accommodation, important events, dining places and some more needed information [3].

The Malaysia industry of mobile phones has witnessed drastic and enormous changes and developments in the market of telecommunication due to its extensive access to smartphone companies with several brands entering the Malaysian market namely Apple, Oppo, Sony, Samsung, Huawei, Lenovo, HTC, Ninethology, LG, Motorola, Asus, XiaoMi, and Blackberry. Thus, companies of Smartphones frequently introduce their new models of Smartphone for the purpose of competing each other in the telecommunication market [4].

The recent report showed that out of 57% of students that are using Smartphones, 60% of them are addicted to using Smart phones for texting in class, 97% use Smartphones for the purpose of social networking, and 40% of students use smartphones to study and revise textbooks before tests [5]. Furthermore, the increase of the Malaysian smartphone market is largely driven by consumers from the age group of 30 years of age and below, which account, for 64% of smartphone users in the country [6]. Despite the importance of this increase, the question remains whether students are affected by the strategies of brand equity for the possession of Smartphones. This question is worthy of further research and investigation.

The launch of new models of smartphones occasionally has yielded a big evolution in the smartphone market, which in turn has affected the users, especially the young generation in terms of motives and choice which are two of the fundamental factors influencing users' decision process to buy smartphones. It has been stated that the technology of smartphone greatly affects the behaviour of people and their attitude toward the purchase [7]. However, the lack of studies on the purchase intention of customer regarding smartphone usage among young adults has been reported by several researchers such as [8]. Recent researchers pointed out the effectiveness of marketing activities, indicating that the brand equity strategies constitute a major reason behind the decreasing number of consumers and consequently buying intention [6].

It as a result of these issues, the strategies of brand equity are one of the most important marketing tools that can be employed to increase purchase of Smartphones. Thus, manufactures of smartphones differentiate their products of smartphones based on brand equity and buying the ultimate influence consumer behaviour [9]. Regarding to [10], dynamic interactions between brand equity and consumer responses need to be studied because understanding consumer responses to brand equity is very vital [11]. However, it has been found that there is a limited number of empirical studies that combine perceived quality, brand association, brand awareness and brand loyalty and examine them as factors influencing consumers' buying intention [12]. Additionally, most of the studies that have focused on smartphones were conducted in developed economies. Buil et al. (2013) [13] argued in Malaysia few empirical studies have investigated the effect of brand association, perceived quality, brand awareness, brand loyalty, and buying intention of consumer. According to Buil et al. (2013) [13], it is assumed that the four dimensions of brand equity are affected by the purchase intention through brand trust.

Furthermore, despite here are some types of study conducted previously with the intention of purchase of smartphone brands, few researchers concentrated on the relationship among brand equity dimensions and student intention purchase of smartphone brand [14]. Hence, this current study investigates the effect of brand trust as a mediating variable between the four dimensions of brand equity and students' purchase intention toward smartphone.

**1.1 Overview on Smartphone Industry in Malaysia** In 2010, 20 percent of the world's population used Smartphone and this percentage increased to reach 37% by 2014. According to the Statistics Portal (2017), the number of Smartphones users reached 16.54 million in 2015 and this number is expected to reach 23.31 million in 2022. Furthermore, in Malaysia the report produced by Enterprise News in 2011 has revealed that the range of people who use Smartphones falls between 25 to 35 years of age. The report has also shown that most of the Smartphones users are highly educated and fully employed with a monthly income of RM5000 and above.

Despite the emergence of Smartphones and their wide spread in the market, standard mobile phones have stood the test of time and are still highly popular all over the world. The facts are highly common in poor and developing countries. In fact, the effects of the increasing use of Smartphone have affected the Gross Domestic Products (hereafter referred to as GDP) across countries. For example, while growth rate in GDP was 1.8% Egypt, in the United Kingdom it reached 24.9%. In Malaysia, reports have recently indicated that the number of smartphone users is expected to reach 11 million in 2017, with an annual growth rate of 10% from the year 2013 to 2017. The rise of the Malaysian Smartphone market is largely driven by consumers from the age group of 30 and below, which accounts for 64% of Smartphone users in the country. Sales of smartphones increased by reaching record sales of 8.5 million units. The total purchase of smartphones by Malaysia users of Smartphones was RM6.8 billion in 2016. The smartphone market has maintained growth for the 10<sup>th</sup> consecutive year since the smartphones were introduced in the country in 2004 [15].

Table 1.1 reveals that the year 2016 witnessed the shipment of over 3 million Samsung smartphones to Malaysia. This particular shipment reflects a steady growth that reached 17.2% in 2016. Observations of the market of Smartphones have revealed that a remarkable growth of OPPO and Huawei, the two Chinese Smartphones brands. This achievement overtook ASUS and Apple. Surprisingly, ASUS was the worst in 2016, although it succeeded to sell compelling phones at lower price. Despite the noticeable improvement of ASUS ZenFone 3 over its predecessors, this model is mostly too ambitious in the Malaysian local market.

**Table 1. Top 5 Smartphone Vendors, Malaysia Shipments, Market Share, and Year Over-Year Growth, 2016 (units in thousands)**

Number	Vender	2016 Shipment Volume	2016 Market Share	2015 Shipment Volume	2015 Market Share	Year- Over-Year Change
1	Samsung	3,017	34.3%	2,574	27.6%	17.2%
2	OPPO	916	10.4%	549	5.9%	66.8%
3	Huawei	852	9.7%	799	8.6%	6.6%
4	Asus	842	9.6%	1,484	15.9%	-43.3%
5	Apple	715	8.1%	865	9.3%	-17.3%
6	Other	2,442	27.9%	3,065	32.7%	-20.3%
7	Total	8,784	100.0%	9,336	100%	-5.9%

Source: IDC Quarterly Mobile Phone Tracker, Feb 16, 2017

## 2. Literature Review

**2.1 Purchase Intention.** It is well-known in marketing that concept purchase intention refers to the willingness of a customer to buy a specific product or service. Previous studies have reported that intention has various implications and that it has a positive influence on the actions of persons [16]. The intention to show a particular behaviour has been considered to be an antecedent of the actual behaviour. The Theory of Planned Behaviour (referred to as TPB) which was proposed by [16] Ajzen (1992) has made this idea clear. The TPB suggests that stronger person's intention to conduct behaviour will lead to a greater level of actual behaviour. Meanwhile, the behavioural intention is suggested to be a key factor which correlates strongly with actual behaviour [17]. Aizen and Fishbein [16] in their theory of reasoned action (TRA) proposed single best predictor of an individual's attitude is a measure of the target to do that behaviour.

Purchase intention is the one of the most common concepts that has been studied by several marketing researches. Shah et al. (2012) [18] showed that behaviour intention of the customer to buy a specific brand can be formed through the attitude about the brand and through recognizing the steps of some extra brands. [19] Crosno, Freling and Skinner (2009) reported that purchase intention is the effectiveness of buying a particular brand in a product category during the purchase process. Furthermore, some researchers have reported that studying some characteristics of a brand should be considered as a significant factor that has a great role in encouraging customers to remain loyal and in the success of firms and organizations [20]. Bertoncelj and Moisesescu (2010) also reported that the best way to encourage customers to purchase is to create a powerful brand [21].

Furthermore, findings of previous investigations conducted by various researchers such as [22] Lin and Lin (2007) and Ibrahim, [23] Kassim, and Mohamood (2013) have reported positive significant connections between brand awareness, price, product characteristics, and the influence of peers on consumers' purchase intention. The available research reports so far have shown that the major generally known antecedents of purchase intention shown by buyers are brand image, brand loyalty, and the quality of the commodity or brand [24] (Chu & Lu, 2007).

Recent studies carried out by Ibrahim, [23] Kassim, and Mohamood (2013) and [22] Lin and Lin (2007) concluded that positive connections existed among three variables: consumers' purchase intention, brand image price, product quality, and. For instance, in the existence of several smartphone brands, Apple brand possesses a good brand image in the thinking of its consumers.

**2.2 Brand Equity.** Aaker (1991) [25] described this concept as a group of four types of brand assets (brand loyalty, brand associations, brand awareness, and perceived quality). Furthermore, Aaker explained that brand equity includes responsibilities connected to two factors: the name and symbol of a brand. The four main elements of brand equity, which are brand awareness, perceived quality, brand associations and brand loyalty have been studied by several researchers [25]. These two factors add to or subtract from the value brought by a product or service to a firm and/or to the firm's customers.

Studies by Jing et al., [26] discussed about branding where brand equity remains an essential aspect in the buyers' purchase intention rise and encourages buyers to purchase extra. Similarly, according to Cai et.al., (2014) [27], brand equity is one of the tool that influential to develop marketing efficiency. Brand equity talk about rational valuation of brand customers besides be able to determining instrument for purchasers' attitude to the brand [28]. Aaker [25] stated that consumers tend to purchase a particular product when a brand has a high brand equity with a higher cost or frequency. This fact reveals that brand equity and purchase behaviour intention have significant

positive connections among them. The brand associations, perceived quality, brand awareness, and brand loyalty are categorized as dimensions of brand equity. Previous research has revealed that all these four dimensions have positive effects on purchase intentions of customers [20].

According to Lin [28], the brand equity is used to refer to the rational evaluation obtained from customers for the brand and can be measured based on the attitude of the consumer towards a particular brand. Thus, deciding the important element in the brand equity based on consumers' evaluation is an important step that is done to identify brand value and to create a purchase decision [29].

It has been pointed out that individuals create versified views based on their cultural background and their cultural context. Furthermore, they construct meanings of particular brands for the purpose of disseminating the brand widely through social structure. Thus, consumers' purchasing behaviour is most probably influenced by various factors such as social perceptions and values consumers generate about particular products and/or services that are associated with a brand [30].

Two reasons have been identified to show why brand equity has received a great attention from researchers. First, for the purpose of assessing a brand, especially to specify the value of the brand for economic goals or business arrangements such as merging or acquisitions. Second, researchers wanted to have the ability to promote and boost marketing outcome that are done through having deep understanding of consumers' knowledge about a brand and to develop proper strategies that can be useful for the brand. Regarding these issues, Peng and Wen [30] (2014) reported significant positive connections between both brand equity and consumers' purchase intention [31]. Keller and Lehmann (2006) mentioned that brand equity can be described, understood and measured in terms of three distinct perspectives which are company-based, financial, and consumer-based. The value of a brand is ultimately deduced based on consumers' activities in the market [13]. Thus, it can be concluded that understanding consumers' response to a brand is important.

The four main elements of brand equity, which are brand awareness, perceived quality, brand associations and brand loyalty have been studied by several researchers [25]. Figure 2.1 below displays the four main elements of brand equity as proposed and presented by Aaker [25]. The following four sub-sections describe the conceptualization of these four elements.

**2.2.1 Brand Awareness.** Aaker [25] outlined some levels of awareness of a particular brand. These levels start with the recognition of the brand until it reach the dominance of the brand which is the situation where a particular brand becomes the sole brand that can be recalled by consumers. On the other hand, Keller [32] described the brand awareness as an element that involves both the recall and recognition of the brand. Hakala et al. [33] argued that there is a link between brand awareness and the top of mind awareness (TOMA). Yet, differences should be made between Top-of-mind awareness and the purchase intention, or of actual brand choice, which is referred to as the behavioural tendency [34]. The power of the brand to be retrieved in a consumer's memory is reflected by the customers' abilities to remember the brand under several situations and is characterized by brand awareness of the brand [33].

In a recent study, Zavattaro [35] reported that customers' way of telling others about a brand itself represent customers' awareness of a brand. Brand awareness influences the purchase intention towards the promotion of that brand. More specifically, brand awareness takes place when the user possesses in his mind a profound and specific appearance of the goods or service [35].

In examining the influence of mobile advertisement factors which do not exist in non-mobile advertisements, it was concluded that some of these factors are associated with context awareness during smartphone use. These factors are personalization [36], and timing [37]. All of these factors have attracted researchers' attention. According to Lee, Lee, and Yang, [38], much of the research that has focused on smartphone advertisements has addressed context awareness, the process of knowing smartphone users' information in advance, and the provision of expected services. Furthermore, previous studies in this area have indicated that the context awareness value of smartphones leads consumers to have a positive attitude toward mobile advertisements. Therefore, based on the previous studies, it is hypothesized that:

**H1:** Brand awareness is positively related to purchase intention towards smartphone

**2.2.2 Perceived Quality.** Hoeffler and Keller [39] showed that preferential evaluations of features, greater perceived quality, and naturally high overall preference are attracted by strong brands. Perceived quality also represents the antecedent phase leading to brand loyalty [40]. Although previous research has reported that perceived quality can have negative impacts on brand loyalty, positive effects of perceived quality on brand equity have been revealed [41]. Consequently, direct and indirect impacts of perceived quality on brand equity have been frequently reported in the findings of previous research [42].

From customers' perspective, perceived quality affects the classification of the product and other aspects of the brand [43]. Purchase intention of private brands is positively influenced by price consciousness [44]. Since value conscious consumers have higher purchase intention, perception towards quality is one of the important factors that affect purchase intention which is determined by both consumer's intention and brand [45].

Perceptual characteristics of consumers are perceived quality, smart shopper self-perception, and perceived risk [46]. Perceptual factors across product categories include perceived risk, perceived value for money, and perceived quality variation [44].

Furthermore, several researchers in previous empirical studies such as [47] and [48] have concluded that positive effects of perceived quality on consumers' purchase intentions are widely reported. Additionally, Chang [49] and Wu [50] emphasized the positive connections between perceived quality and purchase intention.

It contains the decision related benefit, trustworthiness by purchasers' also the brand change against to further rivalling brands. Perceived quality has not affects not only features of the brand, but has effect on the arrangement of the goods since the buyer's view [51]. Therefore, it is hypothesized that:

**H2:** Perceived quality is positively related to purchase intention towards the smartphone.

**2.2.3 Brand Association.** It has pointed out by Aaker [25] that brand association which may refer to anything is saved memory regarding a particular brand and brand image can be understood as "a set of [brand] associations, usually in some meaningful way" (p. 109). Brand association and brand equity are positively interrelated as they can be an index of quality and promise and they can assist a buyer to consider the brand when he or she purchases products of his favourable brand [10]. Attributes are those characteristics that describe the product or service in terms of how the consumer buys and consumes the product as well as those things that are involved in the process.

However, [52] Mulugeta, found that consumers from females have beliefs about a specific brand with its unique features which may include quality packaging, design, texture colour, and some more elements. The significance of a brand is regularly regarding on associations that it is related to brand associations, for examples is the label of Ronald McDonald can make a progressive behaviour or sense towards the brand that has been recognised. Therefore it is hypothesized that:

**H3:** Brand association is positively related to purchase intention towards smartphone

**2.2.4 Brand Loyalty.** Brand loyalty takes place when positive perception towards a brand are created and established by consumers [13]. Based on what has been presented by Aaker [25], brand loyalty is used to evaluate the dependence or faithfulness of consumers on brand. It also reveals customers' commitment to maintain their relationship with a particular brand.

For Oliver [53], brand loyalty is the extreme commitment shown by consumers to rebuy or re-patronize a preferred product or service most likely in the future. This results in frequently repeated purchase of the same brand or, despite the existence of occasional influences and marketing efforts that may potentially attract consumer to switch their behaviours, leading to buying another brand. However, offering the best choice alternative product by firms drives the consumer to brand loyalty. Yoo et al. [10] argued that brand loyalty is one of the main driving force of brand equity and purchase intention. Thus, this results in an increase in the tendency of repeat purchase that can result in the development of brand loyalty.

Lin [28] identified two dimensions of brand loyalty, which are emotional dimension and practical dimension. It has been pointed out that emotional loyalty shows the preference of the consumers towards a specific brand where the actual buying behaviour has not happen yet. On the other hands, practical loyalty refers to the actual buying behaviour of a particular brand. Pedeliento et al. [54] showed in their study that brand loyalty generates a feeling of association between brand manufacturers and the customer. Lua et al. [28] reported that brand loyalty is dependent on buyers' acknowledgment of the brand, brand image as well as brand awareness which themselves are significant factors in brand loyalty. Zavattaro et al. [35] maintained that marketers' goals are the attraction of and retaining the current customers to be loyal to a particular brand and to secure the success of the product. Therefore, it is hypothesized that:

**H4:** Brand loyalty is positively related to purchase intention towards the smartphone

**2.3 The research framework.** Meanwhile, the framework of this research was consecutively. According to Aaker Model [25], the interesting of the research is more focusing on four dimensions of brand equity which it was more beneficial about this topic. The research framework was developed based on Aaker's model [25] of brand equity-based customers, as shown in Figure 1. In Aaker's, [25] studies, there are five brand equity precursors or antecedents including brand awareness, perceived quality, brand associations, brand loyalty and brand assets which are independent variables. These antecedents have been comprehensively analysed and proposed by several studies [10]. Thus, this research asserts that purchase intention is an outcome of brand equity. Furthermore, empirical studies have positively correlated the dimensions of brand equity [13]. However the Aaker [25] also constructed and proposed the most comprehensive brand equity model. As suggested by Aaker Model [25], brand equity consists of four common dimensions which are brand awareness, brand loyalty, perceived quality, and brand association.

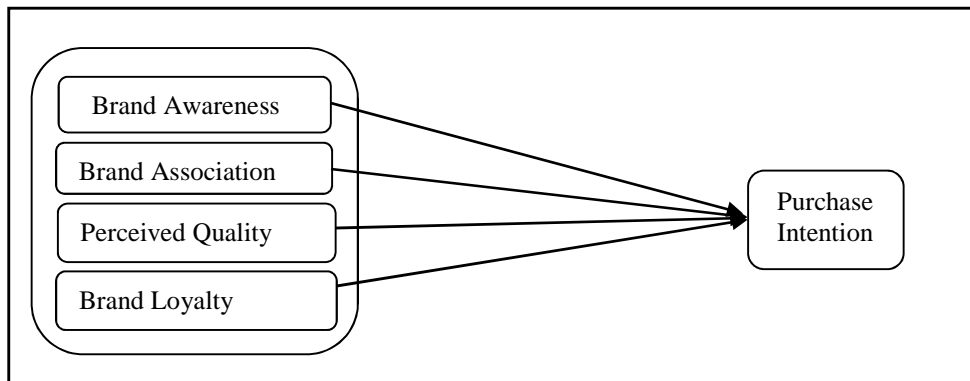


Figure 1: [25] Aaker (1991) Model

**3. Methodology.** This research employs a quantitative research technique to evaluate the structural relationships among study variables. This study utilized a survey research method to collect data via a self-administered survey also the survey method is a cross-sectional technique because the data collected covers the duration of the study. Using survey method, data were collected from 377 students in Universiti Utara Malaysia using a structured questionnaire that was derived from the literature. The data collected were properly analysed to determine whether the formulated hypotheses are valid. The techniques are also deployed to substantiate the objectives of the study. Statistical Package for the Social Sciences (SPSS) Version 22 was utilized to evaluate the data by means of descriptive statistics, correlation, and regression analysis.

However used probability sampling technique because the element in the population has some known chance or probability of being selected as sample subjects. Probability sampling is a statistical basis and most precise way for identifying whom to comprise as a part of sample. Under the probability sampling researcher used stratified random sampling. For the reason, data was collected from the each level of students that's include undergraduate level and post-graduate level. Based on the level, we divided our population in two strata where we have 19, 238 (75.51%) undergraduate students and 6,237 (24.48%) post-graduate students. Total number of 440 questionnaire were distributed where 332 (75.51%) to the undergraduate level and 108 (24.48%) to the post-graduate level according to the proportion of our strata (undergraduate and post-graduate level). From each strata, the students were selected randomly. For the reason, 15 students from each undergraduate and postgraduate classes were selected randomly. 23 undergraduate classes and 8 post-graduate were targeted for data collected. Before going to data collection from each class, a formal request letter was submitted to class teacher. After getting permission, the list of all the students were generated according to their matric number. From the list, 15 students were selected randomly for data collection. Later, the questionnaire were distributed to the selected candidate.

**3.1 Measurements.** Table 2.1 shows the measurement items for brand awareness, perceived quality, brand association, brand loyalty, and purchase intentions. In total, 17 items were adapted from previous studies. Brand awareness (4 items) were adapted from [10]. Perceived quality (4 item) were adapted from [25]. Brand association (3 items) were adapted from [25]. Brand loyalty (3 items) were adapted from Yoo et al. [10], Purchase intention (3

items) were adapted from Shah, Mohd [18] , Buil et al., (2013). All the variables of this study were measured on a five-point scale ranging among 1 = Strongly Disagree and 5= Strongly Agree.

**Table 2**  
**Measurements Items**

Code	Items
AW1	I am aware of this smartphone brand
AW2	I can recognize my Smartphone brand among other competitors' brands.
AW3	When I think of a smartphone, my smartphone brand is one of the brands that come to my mind
AW4	I am familiar with my Smartphone brand
PQ1	My smartphone brand is reliable brand
PQ2	My smartphone has excellent features
PQ3	My smartphone has good quality
PQ4	This smartphone brand is safe to use
ASS1	My smartphones brand is worthy for the price.
ASS2	My smartphone brand has same benefits compare the others brand.
ASS3	I believe that the company of this Smartphone is socially responsible
LO1	I consider myself to be loyal to this smartphone brand
LO2	I will recommend my friend to buy this smartphone.
LO3	I will buy this Smartphone brand without doubt
PI1	Consider this Smartphone is my first choice if I buy same Smartphone product through online
PI2	I prefer to buy my smartphones brand
PI3	It is very likely that I will buy this smartphone brand

#### 4. Findings and Analysis

**4.1 Sample Characteristics.** The gender, ethnic group, education level, marital status, college, and current phone brand used by the respondents were collated (see Table 3). As shown in Table 3, the majority of respondents are females (66.2%), while the remaining 33.8% are male. 58.2 % of the participants are Malays, followed by the Chinese (21.0%), and others (20.8%). 81.8% of the respondents are undergraduates, 15.1% are postgraduates, while the remaining are foundation students. 86.8% of the participants are single, 10.4% are married, and 2.9% are in other forms of relationships. Table 4.4 shows that approximately 55.58% of the respondents are students of College of Business (COB), UUM, 22.3% attended College of Science (CAS), 11.2% studied at College of Law, Government and International Studies (COLGIS), while the other students of Foundation, AGSGS, OYAGSB and GSGSG Schools account for 3.6%, 2.6%, 2.1%, and 2.6% of respondents, respectively. Finally, Table 4.4, shows that Samsung, Apple, Oppo, Huawei and Asus brands of phones are used by 27.5%, 15.3% 10.9%, 6.8% and 8.8% of respondents, respectively, while a high proportion of the respondents (30.6%) use other brands.

**Table 3. Demographic variable**

Demographic	Variable	Frequency	Percent (%)
Gender	Male	130	33.8
	Female	255	66.2
Ethnic group	Malay	224	58.2
	Chinese	81	21.0
	Indians	30	7.8
	Others	50	13.0
	Foundation	12	3.1
The Education Level	Undergraduate	315	81.8
	Postgraduate	58	15.1

Demographic	Variable	Frequency	Percent (%)
Marital status	Married	40	10.4
	Single	334	86.8
	Others	11	2.9
College	UUM Foundation	14	3.6
	UUM CAS	86	22.3
	UUM COB	214	55.58
	UUM COLGIS	43	11.2
	UUM AGSGS	10	2.6
	UUM OYAGSB	8	2.1
	UUM GSGS	19	2.6
Brand	Samsung	106	27.5
	Oppo	42	10.9
	Huawei	26	6.8
	Asus	34	8.8
	Apple	59	15.3
	Others	118	30.6

**4.2 Descriptive Analysis of the Variables.** Descriptive statistics were employed in this study to describe the constructs utilized in the research. Statistical values of mean, standard deviation, minimum and maximum were determined for all variables (independent, mediating and dependent), as shown in Table 4.

**Table 4. Descriptive Statistics for Variables**

Variables	Minimum	Maximum	Mean	Std. Deviation
BAW	2.50	5.00	4.218	0.5785
PQ	2.75	5.00	4.200	0.5945
BAS	2.33	5.00	4.114	0.5904
BLO	1.67	5.00	3.936	0.7346
PI	2.00	5.00	3.945	0.7462

Tables 4 shows that the overall mean for the variables range between 3.936 and 4.218. A high mean score of 4.218 was obtained for brand awareness with a low SD of 0.5785. A low mean score of 3.936 and high SD of 0.7346 was obtained for purchase intention.

**4.3 Reliability analysis.** Cronbach's alpha coefficient is the most utilized parameter for estimating the reliability of internal consistency for a research instrument. In this study, Cronbach's alpha was used to test the internal consistency and reliability of variables listed in Table 5. Cronbach's alpha values around the range of 0.70 are measured suitable while values less than 0.60 are considered poor [55]. The Cronbach's alpha values obtained in the reliability analysis surpass the standard threshold value of 0.70 (Table 5)

**Table 5. Reliability Analysis for the Study Variables**

Variable	Total Items	Rateability
BAW	4	0.74
PQ	4	0.86
Z BAS	3	0.70



BLO	3	0.82
PI	3	0.83

As shown in Table 5 above, the calculated alpha values range from 0.700 to 0.86, which is considered as acceptable [56].

#### 4.4 Hypothesis testing

**Table 6. The Structural Model Assessment Direct Relationship**

HYP	Relation	B	SE	Beta	T	Sig.(p)
H1	BAW-PI	.049	0.065	0.038	0.762	0.446
H2	PQ-PI	.225	0.067	0.179	3.361	0.001
H3	BAS-PI	-.021-	0.055	-0.017-	-0.382-	0.703
H4	BLO-PI	.586	0.049	0.577	11.961	0.000

**Table 7. Summary of Hypotheses testing of IVs with DV**

Hypothesis	Statement	Findings
H1	Brand awareness has a positive effect on purchase intention	No Supported
H2	Perceived Quality has a positive effect on purchase intention	Supported
H3	Brand Association has a positive effect on purchase intention	No Supported
H4	Brand loyalty has a positive effect on purchase intention	Supported

**5. Discussion.** The main purpose of this study is to investigate the positive relationship between brand awareness, perceived quality, brand association, and brand loyalty and intention to purchase of a smartphone. Thus, the four hypotheses, were formulated to reflect the positive relationship between dimensions of brand equity and purchase intention.

The first hypothesis stated that brand awareness positively influences purchase intention. The results related to this hypothesis did not support this hypothesis. In the fact, this result is contrary to expectations as well the literature. For example, Akhtar and Latif and Fadilah, Pang [57] ; Shakur, Aisyah [58] found that brand awareness is an important factor that influences consumers' decision to purchase. However, this result is consistent with the results reported by previous studies such as those that have argued that brand awareness does not influence consumers' intention to buy [59] . A possible explanation for this result may be related to the sample of this research. Since only students in a Malaysian university were selected, they could be contextually sensitive to strategies of brand awareness provided by the firms of a smartphone to purchase. Furthermore, these strategies may not be considered important for the students who mainly focused on the product and quality.

Another reason for this result may be related to lack information that are related to details and explanations about the brand provided by the firms. In the fact, when customers do not have enough information about the brand, they will have no intention to purchase products of this brand [60]. Brand awareness occurs when consumers have a profound and particular image of the product in their minds [35]. Generally, consumers achieve brand knowledge over two types of experience: direct and indirect. While the direct experiences include the consumer of the product or service, the indirect experiences can encompass advertising and marketing [28]. As proposed by researchers, consumers' lack of knowledge on a brand may not help them to assess the quality of the brand, and they, in turn, may not have the intention to purchase, and they cannot develop loyalty to the brand [61].

H2 showed that perceived quality positively influences consumers' intention to purchase the smartphone. Based on the multiple regression analysis, the findings show that there is a positive relationship. This shows that H2 is supported. In other words, perceived quality is necessary for the purchase of smartphones of a particular brand; perceived quality induces consumers to buy products of a particular brand of smartphones. The findings observed in

the research concur of the findings of previous theory which proposed that perceived quality is an aspect of brand equity that encourages consumers to buy certain products and influences their purchase decision [62]. The result is in a good link with some recent studies that have argued that perceived quality significantly affects consumers' intention to purchase [63]. In addition, this result supports the conceptual explanations of purchase intention based on consumers' perception of brand quality of smartphone resources as postulated by the theory of the brand equity [25].

H3 states that brand association has a positive influence on purchase intention. The finding related to this hypothesis shows that there is an insignificant relationship between brand association and purchase intention. Here brand awareness is important because Ekhveh and Darvishi [64] have pointed out that brand awareness is associated with the information node in the memory. In other words, the ability of customers to recognize a brand under a various types of conditions can obviously show their awareness of the brand. Therefore, contrary to the expectations, the findings reported in this current study do not support H3.

Furthermore, it should be noted that being brand association oriented entails name, feelings, colours, music, images, designs, experiences, attitudes, and beliefs. All these aspects may not boost the intention of the students to purchase. A possible explanation of this result is that most of the respondents are undergraduate students whose ages ranged between 20 and 25. Thus, these students most likely forget their trust in a particular brand during a short time. Furthermore, they keep changing their minds as they believe that they should be open to the world through social media. They are also prefer to change new brands and follow their needs and interest. This is in consistent with the perceptions that reflect that brand association can be anything related to what is kept in users' memory regarding the products of a particular brand [25].

H4 states that brand loyalty has a positive influence on purchase intention of brand Smartphone. The multiple regression analysis was run to obtain results related to this hypothesis. The result suggests that there is a positive relationship between brand loyalty and purchase intention. This result provides support for H4. Consumers' commitment to consume and use products of a specific brand is positively related to their intention to purchase it. This finding further provides evidence that brand loyalty repurchases intention of customers by assessing their preferences and attraction toward a specific brand [65]. This result is in line with those reported by Aaker [25] and Aydin et al. [61] who found that brand loyalty influences the intention of the consumer to purchase.

**6. Implications of the Study.** The implications of this study have their contribution towards a more holistic and inclusive brand equity theory building. This can be accomplished by using a model that incorporates four antecedents of brand equity as well as different outcomes of brand equity that is related to intention to purchase smartphones. The results also provide additional empirical support for the research framework. Thus, this study contributes to the theory of brand equity by providing empirical evidence that obviously support the principles of the theory.

This study also has a number of marketing implications. Firstly, the study found that a causal relationship among dimensions of brand equity and purchase intention, in particular perceived quality, brand association and brand loyalty, can assist marketing managers of firm smartphone to create strong a pre-condition to building brand image (brand association) and to focus more on perceived quality of smartphone. Second, the results of this stud do not support the relationship between brand awareness and purchase intention. Based on this finding, marketers of smartphone should give great attention to these efforts in order to establish awareness and to stimulate brand recall purchase intention. Here, recognition should form an essential part of the marketing's priority.

**7. Conclusions.** The first research objective of this paper was to investigate the relationship between and purchase intention of smartphone brands in Malaysia. The direct relationship hypotheses were formulated and tested. Although the revealed significant and positive relationship between perceived quality, brand loyalty and purchase intention; brand awareness and brand association have insignificant influence. Although empirical evidence presents that perceived quality, brand association, brand loyalty have positive effect on purchase intention, it was revealed that brand awareness has insignificant influence.

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